

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Colby C. Nuttall (Reg. No. 58,146) on December 18, 2009.

3. Amend the claims as follows:

1-39. (Cancelled).

40. (Currently Amended) A method for facilitating extension of application functionality by generating one or more application programming interfaces (API) on a computing device that facilitate document development using domain terminology rather than native terminology of a host application, the method comprising:

~~using a processor of a computing device;~~

~~accessing a schema component, using a processor of the computing device that is stored on one or more computer readable storage media, the schema component including a schema element representative of at least one domain terminology term of one or more problems for solving in a host application, wherein the at least one domain terminology term is different from native terminology utilized in a general API of the host~~

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application, wherein the native terminology identifies elements by at least one of cell address or range, and the domain terminology identifies the same elements with textual descriptive terms;

mapping the schema element to a construct of the general API of the host application, using a mapping component executed by the processor stored on the one or more computer-readable storage media in constructing an API of a host application, such that the domain terminology that includes the textual descriptive terms maps to the native terminology that includes the at least one of cell address or range information, and thereby enabling the host application to operate on the domain terminology that utilizes utilizing the textual descriptive terms; and

using a generating component to produce generating a new API based upon a the mapping of created by the mapping component, using a generating component executed by the processor, wherein using the generating component provides a developer with the new API interfacing with the host application and facilitating document development using the textual descriptive terms of the domain terminology in the host application, and in lieu of the cell address or range information of the native terminology of the host application.

41. (Cancelled).

42. (Cancelled).

43. (Previously Presented) The method of claim 40, further comprising using a separation component to separate data from document content.

44. (Previously Presented) The method of claim 40, further comprising:
using a separation component to generate a data island in a document of the host application;
making the data island in the document of the host application editable without launching of the host application; and
synchronizing contents of the data island and the document, such that the document is updated with modified information of the data island when the document is launched within the host application.

45. (Previously Presented) The method of claim 40, wherein the schema component further facilitates manipulation of a variable without reference to underlying register and/or stack allocations.

46. (Currently Amended) ~~One or more~~ A computer-readable storage ~~media~~ medium having stored thereon computer-executable instructions that, when executed by one or more processors of a computing system, perform a method for facilitating extension of application functionality by generating one or more application programming interfaces (API) that facilitate document development using domain terminology rather than native terminology of a host application, the method comprising:

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accessing a schema component, the schema component including a schema element representative of a at least one domain terminology term of one or more problems for solving in a host application, wherein the at least one domain terminology term is different from native terminology utilized in a general API of the host application, wherein the native terminology identifies elements by at least one of cell address or range, and the domain terminology identifies the same elements with textual descriptive terms;

mapping the schema element to a construct of the general API of the host application, using a mapping component ~~in-constructing an API of a host application~~, such that the domain terminology that includes the textual descriptive terms maps to the native terminology that includes the at least one of cell address or range information, and-thereby enabling the host application to operate on the domain terminology ~~that utilizes utilizing the~~ textual descriptive terms; and

~~using a generating component to produce generating~~ a new API based upon a the mapping of created by the mapping component, using a generating component, wherein ~~using the generating component provides a developer with the new API interfacing with the host application and facilitating~~ document development using the textual descriptive terms of the domain terminology in the host application, ~~and~~ in lieu of the cell address or range information of the native terminology of the host application.

47. (Cancelled).

48. (Cancelled).

49. (Currently Amended) The ~~one-or-more~~ computer-readable storage ~~media~~
~~meduim~~ of claim 46, wherein the method further comprises using a separation
component to separate data from document content.

50. (Currently Amended) The ~~one-or-more~~ computer-readable storage ~~media~~
~~meduim~~ of claim 46, wherein the method further comprises:

using a separation component to generate a data island in a document of the
host application;

making the data island in the document of the host application editable without
launching of the host application; and

synchronizing contents of the data island and the document, such that the
document is updated with modified information of the data island when the document is
launched within the host application.

51. (Currently Amended) The ~~one-or-more~~ computer-readable storage ~~media~~
~~meduim~~ of claim 46, wherein the schema component further facilitates manipulation of a
variable without reference to underlying register and/or stack allocations.

52. (Currently Amended) A computing system for facilitating extension of application functionality by generating one or more application programming interfaces (API) that facilitate document development using domain terminology rather than native terminology of a host application, the computing system comprising:

one or more processors; and

one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, cause the computing system to:

access a schema component the schema component including a schema element representative of a at least one domain terminology term of one or more problems for solving in a host application, wherein the at least one domain terminology term is specific to a particular document and is different from native terminology utilized in a general API of the host application, wherein the native terminology identifies elements by at least one of cell address or range, and the domain terminology identifies the same elements with textual descriptive terms;

map the schema component to a construct of the general API of the host application, using a mapping component stored on the one or more computer-readable storage media in-constructing an API of a host application, such that the domain terminology that includes the textual descriptive terms maps to the native terminology that includes the at least one of cell address or range information, and-thereby enabling the host application to operate on the domain terminology that utilizes utilizing the textual descriptive terms; and

~~use a generating component to produce generate a new API based upon a the mapping of created by the mapping component, using a generating component, wherein using the generating component provides a developer with the new API interfacing with the host application and facilitating document development using the textual descriptive terms of the domain terminology in the host application, and in lieu of the cell address or range information of the native terminology of the host application.~~

53. (Cancelled).

54. (Cancelled).

55. (Previously Presented) The computing system of claim 52, wherein executing the computer-executable instructions further causes the computing system to use a separation component to separate data from document content.

56. (Previously Presented) The computing system of claim 52, wherein executing the computer-executable instructions further causes the computing system to:

use a separation component to generate a data island in a document of the host application;

make the data island in the document of the host application editable without launching of the host application; and

synchronize contents of the data island and the document, such that the document is updated with modified information of the data island when the document is launched within the host application.

57. (Previously Presented) The computing system of claim 56, wherein the schema component further facilitates manipulation of a variable without reference to underlying register and/or stack allocations.

58. (Currently Amended) The computing system of claim 57, wherein:

the generation component is further used to generate a data programming model and a view programming model that are automatically connected to each other via data binding, the view programming model providing an interface by which the host application operates on the domain terminology;

generating from the schema element, which is a user-defined schema element, code having a form "x.y", wherein "x" is a portion generated from the user-defined schema element, "y" is a property provided by the host application, and "." is a period separating "x" and "y"; and

the host application is a spreadsheet that references cell content using cell addresses and cell ranges in its native terminology, and accesses the same cell content using textual heading information using the domain terminology.

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4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

CONCLUSION

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ogami et al., U.S. Patent 6,701,487 B1 discloses generating API's that contain register name to physical address mapping.

Scott et al., U.S. Publication No. 2004/0193759 A1 discloses mapping a data element from a first source to a data entry field of a target application.

Lakshmanan et al., "On Querying Spreadsheets", discloses mapping spreadsheet data to its semantic view.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KimbleAnn Verdi whose telephone number is (571)270-1654. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST.

7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sough can be reached on (571) 272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hyung S. Sough/
Supervisory Patent Examiner, Art Unit 2194
12/22/09
December 17, 2009

KV